



September/October 2020

Explorer



**WINTER IS
COMING**

AND CRITTERS
KNOW HOW
TO COPE WITH
THE COLD

CONTENTS

FEATURES

- 6** **The 8 “Ates” Plus 1 for Snakes**
Wild critters face cold weather in many different ways.
- 10** **Teal Hunting 101**
Learn the real deal about hunting teal.

DEPARTMENTS

- 2** Get Out!
- 3** What Is It?
- 4** Into the Wild
- 16** Predator vs. Prey
- 17** Strange but True
- 18** How To
- 20** Xplor More



Contrary to popular belief, the black and brown bands on a woolly bear caterpillar won't help you forecast how long winter will last. In the fall, look for these fuzzy leaf-munchers wiggling across roads as they search for cozy spots to spend winter.

 by Noppadol Paothong

GOVERNOR
Michael L. Parson

CONSERVATION COMMISSION
Don C. Bedell
Steven D. Harrison
Mark L. McHenry
Wm. L. (Barry) Orscheln

DIRECTOR
Sara Parker Pauley

XPLOR STAFF
Bonnie Chasteen
Les Fortenberry
Angie Daly Morfeld
Noppadol Paothong
Marci Porter
Mark Raithehl
Laura Scheuler
Matt Seek
David Stonner
Stephanie Thurber
Cliff White

Xplor (ISSN 2151-8351) is published bimonthly. It is a publication of the Missouri Department of Conservation, 2901 West Truman Boulevard, Jefferson City, MO (Mailing address: PO Box 180, Jefferson City, MO 65102.) Subscription free to Missouri residents (one per household); out of state \$5 per year; out of country \$8 per year. Please allow 6-8 weeks for first issue. Notification of address change must include both old and new address (send mailing label with the subscriber number on it) with 60-day notice. Preferred periodical postage paid at Jefferson City, Missouri, and at additional entry offices. **Postmaster:** Send correspondence to *Xplor Circulation*, PO Box 180, Jefferson City, MO 65102-0180. Phone: 573-751-4115, ext. 3856 or 3249.

Copyright © 2020 by the Conservation Commission of the State of Missouri. Vol. 11, No. 5. September/October 2020 issue printed by LSC Communications in August 2020 in Liberty, Missouri. Printed in the USA.

Send editorial comments to: **Mailing address:** *Xplor Magazine*, PO Box 180, Jefferson City, MO 65102-0180; **Email:** Xplor@mdc.mo.gov. **Please note:** *Xplor* does not accept unsolicited article queries, manuscripts, photographs, or artwork. Any unsolicited material sent will not be returned.

Equal opportunity to participate in and benefit from programs of the Missouri Department of Conservation is available to all individuals without regard to their race, color, religion, national origin, sex, ancestry, age, sexual orientation, veteran status, or disability. Questions should be directed to the Department of Conservation, PO Box 180, Jefferson City, MO 65102, 573-751-4115 (voice) or 800-735-2966 (TTY), or to Chief, Public Civil Rights, Office of Civil Rights, U.S. Department of the Interior, 1849 C Street, NW, Washington, D.C. 20240.



We recycle.
You can, too! Share
Xplor with friends.

ON THE COVER
Black Bear
by Noppadol Paothong



**LAST
CHANCE!**

We Want to Hear From You!

We'd love to know what you think about *Xplor*.
Please grab an adult and share your opinions at
mdc.mo.gov/myxplor

GET OUT!

FUN THINGS TO DO
AND GREAT PLACES
TO DISCOVER NATURE

**LISTEN FOR
MIGRATING BIRDS,**
especially Canada
geese, in the evening.



**LEAVE THE
LEAVES WHERE
THEY FALL.**

They protect sleeping
pollinators. Bonus: No raking!



Be bear aware when you're
hiking or **HUNTING FOR
FALL MUSHROOMS.**
(Never eat a wild mushroom
unless you're sure it's safe.)



Puffballs



*Eastern
screech-owl*

Xplor the **AWESOME ADAPTATIONS**
of owls, beavers, bats, and coyotes on
Thursday, September 24, from 6–7 p.m.
outdoors at Krug Park Amphitheater in
St. Joseph. For more information, email
Shelby.Smith@mdc.mo.gov.

**BLACK BEARS
START FATTENING
UP FOR WINTER**
hibernation in September.



Beaver



Coyote

WHAT IS? IT?

DON'T KNOW?
Jump to Page 20 to find out.



- ① You might see me waiting ...
- ② ... in leaves along a trail.
- ③ Don't get too close or touch me.
- ④ Or I might make you yell.

Into the WILD fall canopy

Heads up! A tree-mendous number of critters live high in the forest canopy.



Gray squirrel



The bright colors of autumn leaves are there all year. You just can't see them. Green-colored chlorophyll (*klor-oh-fill*) covers up other colors most of the time. In the fall, trees quit making chlorophyll. As the green fades, other colors shine through.

LOOK

Western ratsnakes love to bask high up on branches. Scales on the snake's tummy have sharp edges that grip bark. The snake climbs by anchoring its front end and pulling up its back end, then anchoring its back end and pushing up its front end.

Take a Closer Look

Did that stick just move? Stick insects (aka **walking sticks**) look like brown, gray, or green twigs that sprouted legs. The slender insects munch leaves and often sway back and forth to mimic the motion of branches in a breeze.

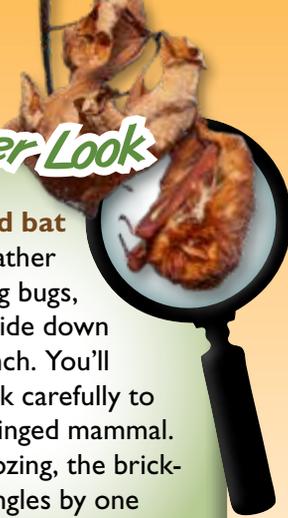
LOOK

The large leafy nests you see in the tops of trees don't belong to birds. Squirrels build them by piling layers of leaves inside a framework of branches. When the leaf pile is big enough, the squirrel digs out a cozy hole in the middle to sleep in.



Take a Closer Look

When an **eastern red bat** needs a breather from bagging bugs, it hangs upside down from a branch. You'll have to look carefully to spot this winged mammal. While snoozing, the brick-red bat dangles by one foot, twisting in the breeze like a clump of dead leaves.



Did You Know?

Missouri's tallest tree is a scarlet oak near Lake Wappapello. The giant tree towers 150 feet above the forest floor. This is about the same height as four utility poles stacked end-to-end.

LOOK

Lots of vines climb up trees. Poison ivy vines (and any other part of the plant) can make you itch.

Poison Ivy

Each leaf is made up of three leaflets. The middle leaflet has a longer stalk than the other two. The leaves turn bright red in the fall, earlier than most other plants.



Virginia Creeper

Like poison ivy, this plant turns red early in the fall, but its leaves are made up of five leaflets, not three.



Wild Grapes

Eight kinds of wild grapes grow in Missouri. All have lobed or heart-shaped leaves without leaflets.



What Happened Here?

Yellow-bellied sapsuckers drill tidy rows of shallow holes into living trees. When sweet sap leaks out, the little woodpeckers return to lick it up.



THE GREAT

PLUS 1 FOR SNAKES

by Bonnie Chasteen and Matt Seek
illustrations by Mark Raithel

Count the ways wild critters alleviate winter's woes

How do animals tolerate the winter weather that refrigerates the Show-Me State? Humans can relocate to cozy homes and wait for temperatures to moderate. Wild critters aren't so fortunate. It's their fate to operate in winter's freezing climate. But, wait. Animals have eight great traits to help them compensate.

MIGRATE

Many birds, such as this **blackburnian warbler**, say "I'm outta here!" when winter arrives. They fly to warmer places where there's more food for them to eat. Birds aren't the only animals that migrate. Some bats, fish, and even butterflies head south for winter, too. For example, monarchs are famous for flying thousands of miles to reach their winter home in Mexico.

TERMINATE

S



Grasshoppers, mosquitoes, and many other insects lay eggs before winter arrives. The adults die when the first hard freeze hits, leaving the babies to fend for themselves when they hatch the following spring. Grasshoppers lay their eggs in soil where it's weedy, grassy, or crop-covered. Different kinds of grasshopper eggs hatch at different times, which is why you can see grasshoppers throughout the spring and early summer.

CONGREGATE

BRUMATE

Snakes, like the quail pictured here, snuggle too, and some aren't choosy about who they curl up with. Venomous copperheads and harmless western ratsnakes have been known to congregate in burrows below the frost line. How do they cope as roommates in such close quarters? They brumate (*broo-mate*). This is a special survival trait that only reptiles and amphibians have. These cold-blooded critters can't move much when temperatures drop, so their bodies slow *waaaaay* down. When it's warm enough to relocate, they activate and skate their separate ways.

When you're cold, do you ever snuggle up with your family or friends? Animals do. **Quail**, ducks, and geese gather together, or congregate, to keep cozy. Squirrels, raccoons, and honeybees huddle up in hollow trees or other hidey-holes to conserve heat.





PUPATE

Some insects ride out winter as a pupa (*pyoo-puh*). Think of a pupa as an insect's teen years — a time when the baby bug changes into an adult. Lots of insects, including this **Polyphemus moth**, form a cocoon when they pupate. Some even have antifreeze in their bodies to keep them from turning into bugsicles when temperatures tank. If you find a Polyphemus moth cocoon, leave it be, and then check it next June. You'll find it empty — with an opening at the top that makes it look like a little shoe.



INSULATE

Critters don't wear big puffy coats, but they have something just as good to insulate their bodies against winter's chill: fur and feathers. **Red foxes** and other mammals grow thick fur coats to keep them cozy. Birds fluff up their feathers to trap warm air next to their skin, like the way a down comforter keeps you warm at night.



EXCAVATE

Voles, mice, and shrews plow tunnels under the snow. The snow hides the furry mammals from hungry predators and acts like a fluffy white blanket, keeping the tunnel much warmer than the air outside. To see how toasty snow can be, build an igloo.

.....



We use electricity or burn natural gas to generate heat in our houses. Animals, including humans, generate heat from the foods they eat. For animals trying to survive winter, being overweight is great. Not only does extra fat help insulate their bodies, but they also can use the fat to generate heat. Although **red-tailed hawks** have feathers to keep them warm, fatty foods like seeds and chunky rodents help them generate heat from the inside.

GENERATE



HIBERNATE

A few animals treat winter like a boring movie — they sleep through it. Chipmunks, skunks, and bears take long, deep naps during the worst winter weather. In fact, a bear doesn't even wake up to pee or poop. Instead, it stores a poop plug and pops it out soon after waking up in the spring. Bats, woodchucks, and **ground squirrels** sleep even deeper — they hibernate. During hibernation, an animal's temperature drops, and its breathing and heart rate slow way down. If your heart slowed as much as a hibernating ground squirrel's, you'd never wake up!



TEAL HUNTING

by Matt Seek

If icy weather, frozen toes, and snotsicles hanging from your nose make you think twice about winter duck hunting, give September's teal season a try.

101

Teal are the buzz bombs of the waterfowl world. These small, sleek ducks dip and dive through the sky in ways that would make a stunt pilot reach for a barf bag. This makes them a ton of fun — and quite a challenge — to hunt.

EARLY BIRDS

When the earliest winds of autumn begin to blow, teal skedaddle south. On their way to wintering grounds in Central America, they make pit stops to rest and refuel at ponds, marshes, and mudflats across Missouri. The first flocks arrive here in late August, long before bigger ducks such as mallards show up. Blue-winged teal numbers peak in mid-September, just in time for teal season.



THE REAL TEAL

Three kinds of teal are legal to hunt during September's season. But be careful! A few other ducks can show up in the Show-Me State during this time. Make absolutely sure it's a real teal before you pull the trigger!

✓ OK to Hunt

- ✓ **Blue-winged teal** are Missouri's most common kind of teal. Their small size and blue wing patches help identify these zippy ducks.
- ✓ **Green-winged teal** are even smaller than their blue-winged cousins. Their tiny size and shiny green wing patches are good ID clues.
- ✓ **Cinnamon teal** are rare in Missouri. In the fall, they look similar to blue-winged teal.



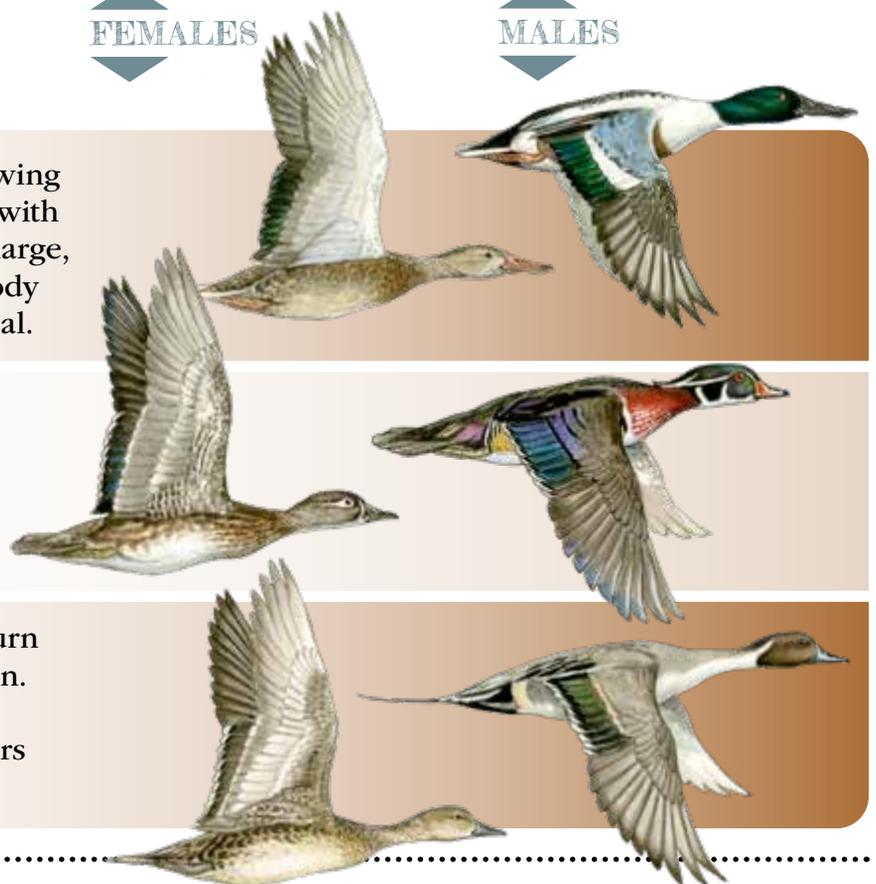
Cinnamon teal: Terry L Spivey, Terry Spivey Photography, Bugwood.org

FEMALES

MALES

✗ Don't Shoot!

- ✗ **Northern shovelers** have blue wing patches and are often mixed in with flocks of blue-winged teal. The large, spoon-shaped bill and bigger body help you tell this duck from a teal.
- ✗ **Wood ducks** also have blue wing patches. But woodies are much larger than teal, and they have blockier heads and square-shaped tails.
- ✗ **Northern pintails** sometimes turn up in Missouri during teal season. They lack blue wing patches. A long body and pointy tail feathers help identify this graceful duck.



GEAR UP

One of the beauties of teal hunting is that it doesn't require a mountain of gear. You certainly don't need a boat, tons of decoys, or layer after layer of warm, waterproof clothes. In fact, these 10 items are all you need:



1 The most important thing to take along is *a grown-up* who can help you find a hunting spot, show you how to set up, and teach you how to hunt safely.

2 *Lightweight camouflage clothing* helps you hide from keen-eyed ducks and keeps the scorching sun and pointy-nosed mosquitoes off your skin.

3 Speaking of mosquitoes, don't forget to spray yourself with *bug repellent* to keep the bothersome bloodsuckers at bay.



4 *Waders* are like rubber boots, except they come all the way up to your hips or chest. They'll keep you dry when you're slogging through the marsh, but they can get steamy on a hot September day. Some hunters prefer to simply get wet.

5 *Decoys* are fake plastic ducks. You use them to fool real ducks into thinking your corner of the marsh is a good place to land. A dozen teal or mallard hen decoys is usually enough.



6 Pack *water and some snacks* to munch. You don't want your growling tummy to scare away the teal!



Turn the page for more **GEAR**

GEAR *(continued)*

7 Wear *safety glasses* to protect your peepers and ear protection for your hearing holes.

8 A *20-gauge shotgun* is perfect for hunting teal. Shotguns shoot a cloud of pellets (called shot). Make sure your shotgun can hold no more than three shotgun shells at once.

9 The number stamped on the side of a shotgun shell tells you the size of the shot it contains. For teal, you'll want to use *No. 4, 5, or 6 shot*. Use only steel or nontoxic shot. Lead shot is illegal for hunting waterfowl.



10 Unless you like standing or kneeling in the water, bring along a *5-gallon bucket* or a *camp stool* to sit on.



X MARKS THE SPOT

There are two things to look for when choosing where to hunt: shallow water where teal can land and a brushy area nearby where you can hide.

Traveling teal rest in marshes, mudflats, ponds, flooded fields, and river sloughs. They like water that's less than 2 feet deep and dotted with vegetation so they can refuel on seeds and insects.

Ducks are wary birds, and they have excellent eyesight. But you don't have to wear Harry Potter's invisibility cloak to hide from them. Just find some cattails, bulrushes, or willows at the water's edge and crouch down.

PRACTICE MAKES PERFECT

Many hunters believe teal rocket around at the speed of sound. In reality, many other ducks fly much faster. But that doesn't mean teal aren't hard to hit. To better your chances of making a clean shot, practice shooting skeet (aka clay pigeons) several times before the season starts. To find a place to shoot, aim your browser

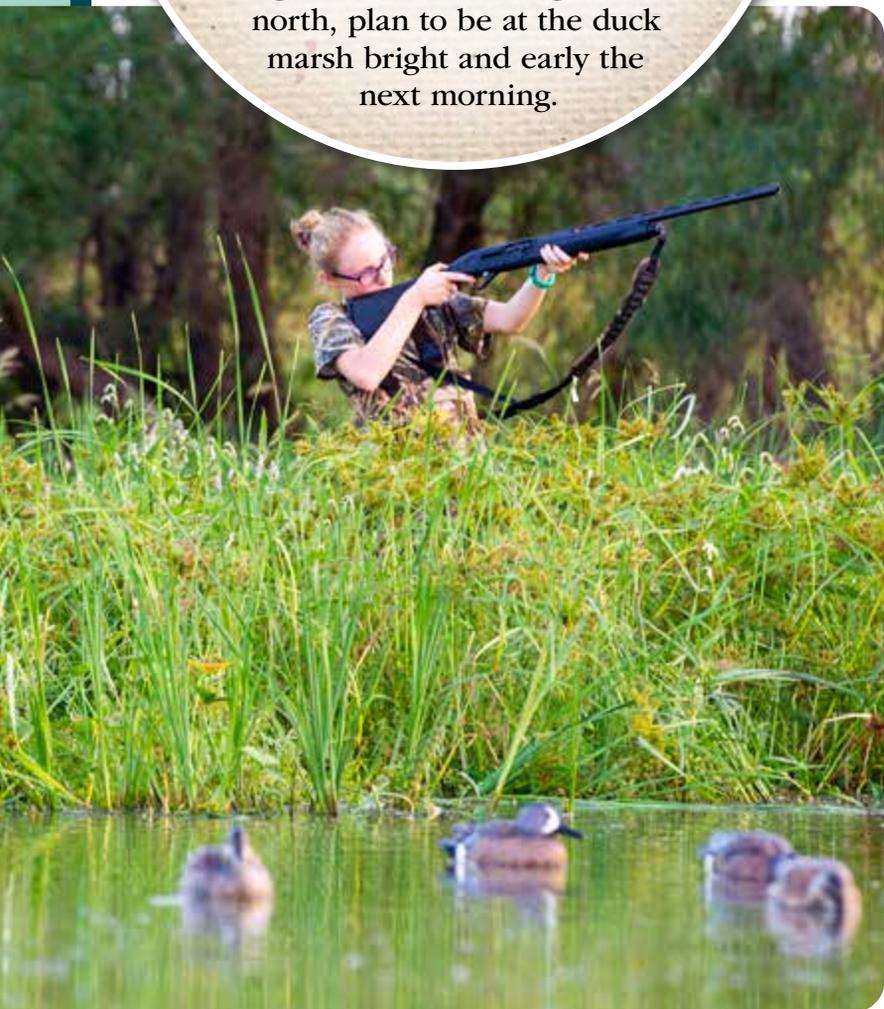
at mdc.mo.gov/shootingranges.





HERE TODAY, GONE TOMORROW

During migration, ducks don't stay in one place for very long. A marsh that was packed with birds one day might be deserted the next. But teal don't travel on a whim. Weather guides their whereabouts. If you want to be in the right place at the right time, watch the evening news. When the forecaster predicts a cold front coming through or winds blowing out of the north, plan to be at the duck marsh bright and early the next morning.



THE EARLY HUNTER GETS THE BIRD

After flying all night, teal search for a resting place soon after sunrise. Get up extra early so you can set out your decoys and hunker down in your hiding spot before dawn.

Ducks land with their beaks pointed into the wind, so set up with the breeze at your back. This way, the birds will be flying toward you, and you'll have a better chance to make a clean shot.

When teal start buzzing the decoys, hold still and be quiet. The slightest movement or sound may send them streaking for the next state before you can get off a shot. And speaking of shooting, until you have a few hunts under your belt, let your grown-up guide tell you when to pull the trigger.

When it's time, don't shoot into the center of a large flock. Instead, pick out a bird at the edge so you're less likely to hit more than one.

If you miss, don't feel bad. Lots of people do. Instead, look on the bright side: You get to stay in the marsh a little longer and enjoy the sight of duck-shaped rockets streaking across the sunny September sky.

KNOW THE RULES

There are several laws you must follow when hunting teal, and it's your job to know them. Pick up a copy of the *Migratory Bird and Waterfowl Hunting Digest* where hunting permits are sold or read the booklet online at short.mdc.mo.gov/Z8L.



THIS ISSUE:

CAROLINA MANTID VS. AMBUSH BUG

Illustrated by David Besenger

Head on a Swivel

Thanks to a head that can turn 180 degrees, a mantid can spot supper no matter where prey is hiding.

Spring-Loaded Legs

Mantids strike with ninja-like speed, snapping their spiky forelegs together to skewer prey and pin it in place for a killing bite.

Blossom Costume

Camouflaged colors and a bumpy body make an ambush bug almost invisible on flowers.

Stabby Yapper

An ambush bug uses its knifelike mouth to stab unlucky insects and inject digestive juices that paralyze prey.

AND THE WINNER IS...

STRANGE but TRUE!

YOUR GUIDE TO ALL THE
UNUSUAL, UNIQUE,
AND **UNBELIEVABLE**
STUFF THAT GOES ON IN NATURE

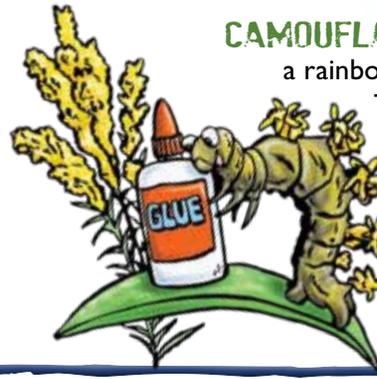
In the fall, **BLUE JAYS** gather acorns and hide them away to snack on throughout winter. By stuffing its flexible throat and carrying one in its beak, a jay can haul up to eight acorns at a time.



Oh, snap! In the fall, **WITCH HAZEL** fruits dry up and pop open. This causes an audible SNAP! as shiny black seeds shoot out and zing up to 30 feet away from the parent plant.

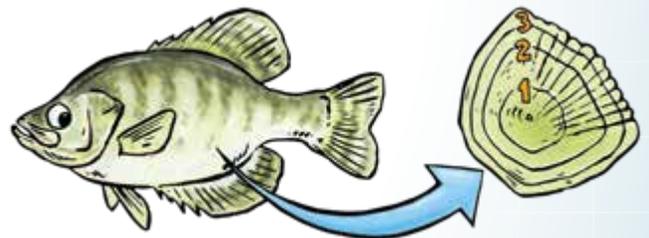
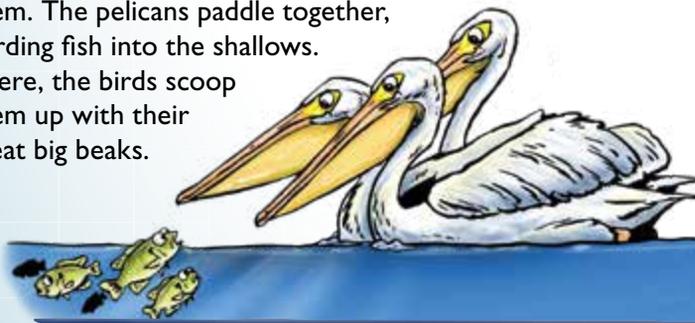


The **TRI-COLORED BAT** is one of the smallest bats found in North America. This flying fluffball measures only 3 inches from nose to tail and weighs about as much as a quarter.

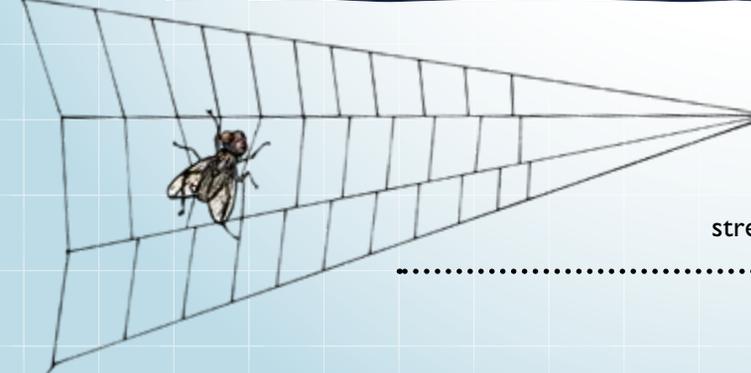


CAMOUFLAGED LOOPERS eat a rainbow of different flowers. To stay disguised while it dines, the crafty caterpillar plucks petals from whatever it's munching and sticks them to its back with silk.

When an **AMERICAN WHITE PELICAN** wishes for fishes, it gets some buddies to help catch them. The pelicans paddle together, herding fish into the shallows. There, the birds scoop them up with their great big beaks.



As a **FISH** grows, the scales on its body get bigger, too. In some fish, scales develop a pattern of rings or lines for each year of growth. You can count these — like growth rings on a tree — to learn the fish's age.



The web of a **TRIANGLE WEAVER SPIDER** works like the pulled-back string of a bow. When bugs land, the arachnid archer lets go of an anchor thread, and the stretched-out strands of silk slingshot the spider toward its prey.

HOW TO

Preserve Autumn Leaves

Autumn leaves usually lose their flashy colors by the end of October. One way to preserve leaves is to press them flat between two heavy books. But if you use this method, you'll find that the dry leaves often crumble when you handle them, and their colors quickly fade away. Here's an easy, better way to keep leaves brilliant, beautiful, and flexible all winter long.

HERE'S WHAT YOU NEED

- An assortment of colorful leaves (It's OK to pick some green ones, too.)
- Glycerin (Look for it in the soap-making section of craft stores.)
- Water
- Measuring cup
- Two cake pans
- Paper towels



HEADS UP!

In the fall, poison ivy leaves turn brilliantly red. They would make beautiful leaves to preserve, except for one important drawback: Oils in the plant's leaves and stems cause a red, itchy rash to form on your skin. Before collecting autumn leaves, review Page 5 to learn what poison ivy looks like!



HERE'S WHAT YOU DO



1

In a cake pan, stir one part glycerin into two parts water. You'll need enough of this mixture to cover all of the leaves you want to preserve. If you have lots of leaves, you can preserve them in batches.



2

Place the leaves in the glycerin mixture. You can add several layers of leaves, but make sure each leaf is completely covered with the mixture.



3

Place a weighted cake pan on top of the leaves to hold them down in the mixture. Let the leaves soak like this for three to five days. The longer they soak, the more flexible and better preserved they will be.



4

Take out the leaves and blot off the glycerin with paper towels. (If the leaves aren't shiny and flexible, let them soak for a few more days.) The leaves may curl up a little bit. If you prefer flatter leaves, place them between paper towels and stack heavy books on top of them for several days.

You can use your leaves as table decorations for a Thanksgiving feast, tie them in bunches to use as Christmas tree ornaments, or weave them into a wreath to hang on your front door (most craft stores sell wreath frames).

XPLOR MOR

Costumed Critters

Raccoons don't need costumes for Halloween — they already wear masks. And if one of these furry bandits showed up at your front door looking for tricks or treats, chances are it would be happy with whatever you dropped in its basket. That's because raccoons are omnivores, which means they eat lots of different kinds of foods. On the other paw, some animals are pickier about what kinds of treats they eat.

Instructions

Can you guess the critter under each costume and then match each furry, feathered, or scaly trickster to the **treat** it would like the best? We've filled in one to show you how it's done.

WHAT IS IT?

— FROM PAGE 3 —

If you can see the slit-shaped pupils of an eastern copperhead's eyes, you're probably too close. But it's a good way to tell this pit viper from harmless nonvenomous snakes, which have round pupils. Copperheads follow the heat-sensing pits in their faces to find mice and other small prey. The copperhead is shy and won't strike unless cornered. To avoid its bite, be careful where you walk and reach, especially in rocky woods. Learn more at mdc.mo.gov/field-guide.



F



A: _____



B: bobcat 1



C: _____



D: _____



E: _____



F: _____



G: _____



H: _____

ILLUSTRATIONS BY SHANNON BEAUMONT

Answers: A: bat 4; B: bobcat 1; C: rabbit 2; D: beaver 6; E: squirrel 5; F: river otter 8; G: black-necked stilt 3; H: hog-nosed snake 7

SUBSCRIBE ONLINE

mdc.mo.gov/xplor

FREE TO MISSOURI HOUSEHOLDS

CRITTER CORNER

Red Admiral



These black, red, and white butterflies flit through Missouri's woods, gardens, and open areas from March through November. They also gather at mud puddles or along creek beds and lake shores. Their wings are patchy and drab-colored underneath. Folding their wings at rest helps them blend in to their surroundings. To sip tree sap or wildflower nectar, they uncurl their long, strawlike tongues. Like the monarch, some red admirals migrate south for the winter. Learn more at mdc.mo.gov/field-guide.